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Causes of community suicides among indigenous South Australians

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ABSTRACT

A retrospective review of suicides occurring among Aboriginal people in the community in South Australia over a 5-year period was undertaken from January 2005 to December 2009. Twenty-eight cases were identified, consisting of 21 males (age range 16–44 years, mean 29.9 years) and 7 females (age range 23–45 years, mean 32.0 years). Deaths in all cases were caused by hanging (100%). Toxicological evaluation of blood revealed alcohol (39.3% of cases), cannabinoids (39.3%), benzodiazepines (10.7%), opiates (7.1%), antidepressants (7.1%), amphetamines (3.6%) and volatiles (3.6%). This study has demonstrated that the method of suicide overwhelmingly preferred by indigenous victims in South Australia is hanging. The precise reasons for this preference are uncertain, however, an indigenous person in South Australia presenting as a suicide where a method other than hanging has been used would be exceedingly uncommon, raising the possibility of alternative manners of death.

1. Introduction

In a recent study of adolescent asphyxial deaths in South Australia between 1994 and 2010, the authors found a disproportionately high number of Aboriginal victims.[1] Specifically, the proportion of Aboriginal victims aged between 10 and 18 years was 19.4%, compared to the general South Australian community where this group represented only 2.2–3.2% of the population in this age range. High suicide rates have also been reported in other indigenous communities, including Native Americans, Maori and Inuit, despite suicide previously being an uncommon event.[2] A variety of reasons have been proposed for this trend that involve the concept of "anomie", first proposed by Durkheim, where individuals are affected by "collective despair" due to a loss of their cultural values and a weakening of traditional ties.[2–5] A study in the 1980's in South Australia, demonstrated a rate of suicide in the Aboriginal community that was six times higher than the non-Aboriginal population.[2] Given higher rates of suicide in the local indigenous community the following study was undertaken to examine whether there were any differences in the specific methods of suicide that were being utilised.

2. Methodology

A retrospective review of all cases of suicide in the community involving Australian Aboriginal or indigenous victims registered at Forensic Science SA was undertaken over a 5-year period, from January 2005 to December 2009. The case files were reviewed and the age, sex, circumstances of death and method of suicide were collated. All cases had undergone full police and coronial investigations. Deaths where the manner was not clear from the case files were excluded, as were deaths in custody.

Forensic Science SA is the South Australian state forensic facility where medicolegal autopsies are performed. The population served is approximately 1.6 million, including 28,055 individuals who are listed by the Australian Bureau of Statistics as Aboriginal.[6]

3. Findings

A total of 28 cases were identified, consisting of 21 males (age range 16–44 years, mean 29.9 years) and 7 females (age range 23–45 years, mean 32.0 years). Suicide notes were found in three cases, with a suicide message left on a mobile phone in a further case. Full autopsies had been performed in 27/28 cases (96.4%), with an external examination only performed in one case (3.6%). Deaths in all cases were caused by hanging. Injuries were consistent with the reported events and there were no underlying organic illnesses or diseases that could have caused or contributed to death. Toxicological

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results were available for 21 of the 28 victims (75%) (Table 1). Eleven victims (39.3%) had consumed alcohol, with nine (9/11, 81.8%) having ethanol levels ≥0.05 g/L. Cannabinoids were also found in eleven cases. In a minority of victims, psychoactive medications including benzodiazepines, opiates and antidepressants were detected. Although volatiles were detected in one case, in keeping with gasoline/hydrocarbon inhalation, this test was not performed in the other cases as there was no indication at the scene of death of volatile use. Toxicology was negative in five cases (17.9%).

4. Discussion

Suicidal deaths in Australia form a significant component of overall mortality, with 23,254 reported cases occurring between 1997 and 2006.[7] In 2008, there were 2191 deaths from suicide with the two most popular methods being hanging (53%) and drug toxicity/poisoning (23%).[8] Differences in suicide rates occur among communities with, for example, the Northern Territory in Australia having higher rates than other Australian States or Territories.[9] Such differences may be influenced by the age and sex distribution of a community, and by socioeconomic and cultural factors.[10–14]

The focus of the current study was on specific methods of suicide that had been utilised by indigenous victims in South Australia. All of the 28 victims had died from hanging (100%), a percentage that is markedly higher than the national general population figure of 53%.[8] While other studies have noted higher rates of hanging in indigenous populations, this has not been to the exclusion of other methods. For example, Parker and Ben-Tovim in their 2002 study of suicide in the Northern Territory found that 71% of Aboriginal males had used hanging, compared to 30% of non-Aboriginal male victims, with 43% of Aboriginal female victims succumbing to hanging, compared to 20% of non-Aboriginal female victims. Other reported causes of suicide among indigenous people in Parker and Ben-Tovim's study were firearms (25% of males) and poisoning (29% of females).[15]

Toxicological analyses from 21 of the victims in the current study revealed the presence of substantial amounts of alcohol. Cannabis was also commonly detected. While alcohol and drug abuse are recognised as significant risk factors for impulsive suicides,[16,17] substances such as ethanol, cannabinoids, benzodiazepines and opiates are not known to predispose an individual to a particular method.[18] Volatile materials were detected in head space analysis in only one case, however, it is possible that this number may have been higher, given the high incidence of gasoline sniffing in isolated impoverished Aboriginal communities,[19] and the failure to specifically test for volatiles in the majority of cases.

The reason that deaths in custody were not included in the current study was that methods of self-harm in secure facilities and prisons may include a greater proportion of hanging deaths due to limitations in the availability of other methods. By excluding these deaths we have ensured that the preponderance of hanging deaths identified in the study was not skewed by bias introduced by incarceration or institutionalisation. It is acknowledged that one problem with all studies of suicide is in capturing cases where the manner of death is unclear. This includes certain deaths due to drug intoxication, and single occupant, single motor vehicle collisions. However, difficulties in assigning the manner of death in these cases should not be influenced by race or ethnicity.

It is also recognised that one problem with a retrospective study of indigenous suicide is in determining who should be classed as indigenous, or not. As it is quite likely that cases may not have been included due to insufficient evidence of cultural and racial background at the time of autopsy, the data are not being used for population-based analyses. However, the results can be used to demonstrate methods of suicide that have been used by individuals who have been clearly identified as indigenous in a forensic context.

Suicide within the indigenous Australian community is a complex and sometimes not well-understood event, with attitudes to suicide and mental health possibly being entirely different to non-indigenous groups.[20,21] Numbers of suicides continue to remain high in indigenous communities, with suicide rates for indigenous males aged less than 25 years and 25–34 years being three and four times higher that of non-indigenous males of the same ages, and rates for indigenous females aged less than 25 years being five times higher the rates of non-indigenous females of that age.[22] It is unclear why differences were found in the method of suicide in this study, although it may be a reflection of differences in the perception of suicide in this particular cultural group. Cases where alternative methods to hanging are encountered in indigenous individuals, however, need to be carefully evaluated for other possible manners of death.

Table 1
Toxicological analyses in cases of indigenous suicides in the community in South Australia over a 5-year period (2005–2009).

Substance	Male	Female	Totals
Ethanol			
<0.05 g/L	1	1	2
≥0.05 g/L	6	3	9
Cannabinoids	8	3	11
Benzodiazepines	2	1	3
Opiates	1	1	2
Antidepressants	1	1	2
Amphetamines		1	1
Volatiles	1		1
Negative	5		5
No toxicological analysis	5	2	7

Conflict of interest
The authors have no conflict of interest.

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Ethical approval
The study has been approved by the institutional ethics committee.

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